

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-95. (canceled)

96. (currently amended) ~~The~~ An isolated nucleic acid molecule ~~according to claim 95, wherein said sequence comprises~~ comprising SEQ ID NO: 3.

97-98. (canceled)

99. (currently amended) A method of increasing in a ~~Cantharanthus~~ Catharanthus plant cell the expression of one or more genes involved in the biosynthesis of tryptophane or tryptamine, said method comprising the steps of:

a) transforming the cell with a genetic construct comprising a nucleotide sequence encoding an AP2-domain transcription factor, operably linked to an expression regulating sequence that is operable in said cell; and,

b) cultivating said cell under conditions such that the nucleotide sequence is expressed in said cell;

wherein said nucleotide sequence encodes an AP2-domain transcription factor selected from:

i) a transcription factor having the amino acid sequence of SEQ ID NO: 6; and

ii) a transcription factor having an amino acid sequence that comprises at least amino acids 68-179 of SEQ ID NO: 6,

wherein the transcription factor enhances the biosynthesis in ~~Cantharanthus~~ Catharanthus *roseus* cells of at least one of tryptophane or tryptamine, when stably expressed in said *C. roseus* cells from a genetic construct comprising a sequence coding for the transcription factor operably linked to a plant promoter in a sense orientation.

100. (currently amended) An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

a) SEQ ID NO: 3; and[[,]]

b) a nucleotide sequence encoding an AP2-domain transcription factor selected from the group consisting of

i) SEQ ID NO: 6;

ii) a transcription factor comprising amino acids 68-203 of SEQ ID NO: 6; and

iii) a transcription factor comprising amino acids 1-179 of SEQ ID NO: 6.

101. (currently amended) A method of increasing in a ~~Cantharanthus~~ Catharanthus plant cell the level(s) of expression of tryptamine or tryptophane, said method comprising the steps of:

a) transforming the cell with a genetic construct comprising a nucleotide sequence encoding an AP2-domain transcription factor, operably linked to an expression regulating sequence that is operable in said cell; and,

b) cultivating said cell under conditions such that the level of AP2-domain transcription factor is expressed in said cell;

wherein said nucleotide sequence encodes an AP2-domain transcription factor selected from:

i) a transcription factor having the amino acid sequence of SEQ ID NO: 6;

ii) a transcription factor comprising amino acids 68-203 of SEQ ID NO: 6; and

iii) a transcription factor comprising amino acids 1-179 of SEQ ID NO: 6,

wherein the transcription factor enhances the biosynthesis of at least one of tryptophane or tryptamine, when stably expressed in said cells from a genetic construct comprising a sequence coding for the transcription factor operably linked to a plant promoter in a sense orientation.

102. (currently amended) The method according to claim 101, wherein the plant cell is ~~Cantharanthus~~ Catharanthus roseus.

103. (currently amended) The method according to claim 99, wherein the plant cell is ~~Cantharanthus~~ Catharanthus roseus.

104. (new) The method according to claim 99, wherein the nucleotide sequence that encodes an AP-2 domain transcription factor is a transcription factor having an amino acid sequence of SEQ ID NO: 6.

105. (new) The method according to claim 99, wherein the nucleotide sequence that encodes an AP-2 domain transcription factor has an amino acid sequence that comprises at least amino acids 68-179 of SEQ ID NO: 6.

106. (new) The isolated nucleic acid molecule according to claim 100, wherein the nucleotide sequence is a nucleotide sequence encoding an AP-2 domain transcription factor comprising SEQ ID NO: 6.

107. (new) The isolated nucleic acid molecule according to claim 100, wherein the nucleotide sequence is a nucleotide sequence encoding an AP-2 domain transcription factor comprising amino acids 68-203 of SEQ ID NO: 6.

108. (new) The isolated nucleic acid molecule according to claim 100, wherein the nucleotide sequence is a nucleotide sequence encoding an AP-2 domain transcription factor comprising amino acids 1-179 of SEQ ID NO: 6.

109. (new) The method according to claim 101, wherein the nucleotide sequence encodes an AP-2 domain transcription factor having the amino acids of SEQ ID NO: 6.

110. (new) The method according to claim 101, wherein the nucleotide sequences encodes an AP-2 domain transcription factor comprising amino acids 68-203 of SEQ ID NO: 6.

111. (new) The method according to claim 101, wherein the nucleotide sequence encodes an AP-2 domain transcription factor comprising amino acids 1-179 of SEQ ID NO: 6.